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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/678,240      | 10/03/2003  | Richard A. Holl      | 58035-013200        | 2005             |

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EXAMINER

DUONG, THO V

ART UNIT PAPER NUMBER

3743

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/678,240 | <b>Applicant(s)</b><br>HOLL, RICHARD A. |  |
|                              | <b>Examiner</b><br>Tho v Duong       | <b>Art Unit</b><br>3743                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/24/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-10, drawn to an apparatus for transfer heat energy, classified in class 165, subclass 90.
- II. Claims 11-13, drawn to a method for imparting a desired temperature to a reaction process, classified in class 422, subclass 203.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product as claimed can be used in a materially different process of using that product such as process without steps of activating the inner rotor; and reacting the reaction components within the annular processing gap.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Claude Nassif on 8/26/2004 a provisional election was made without traverse to prosecute the invention of I, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-13 have

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been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Claim Objections***

Claim 3 is objected to because of the following informalities: It is suggested to change “the first passage means” in line 1 into “the common first passage means” since “the first passage means” lacks of antecedent basis from the claim. Furthermore, it is also suggested to change “the second common passage means” into “the common second passage means” in line 3 since “the second common passage means” lacks of antecedent basis from the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As regarding claim 3, the claimed limitation of “the first passage means to the plurality of first plenum is a coaxial passage” and “the second common passage means to the second plurality of plenum is a coaxial passage” render the scope of the claim indefinite since it is not clear if applicant is claiming that the first passage means and the second passage means are coaxial with each other, or with the plenums or else. As regarding claim 7 and 8, the claimed

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subject matter of “said flow gap is comprised of a flow path from about 3 cm or less” and “said flow gap is comprised of a flow path is about .5 cm” renders the scope of the claims indefinite since it is not clear what dimension of the gap is claiming.

Claims 7 and 8 are further rejected as can be best understood by the examiner, in which either the width or the length of the flow gaps is of the claimed range or value.

With regarding claim 3, in view of the clarity issue above, the examiner has not able to determine whether claim 3 is new or inventive and will do so at amendment.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2,4-6 and 9-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Schimion (US 6,572,517). Schimion discloses (figures 1-4) an apparatus comprising a cylindrical tube body (1) providing a body surface of cylindrical transverse cross section that is to be contacted by heat transfer fluid; a plurality of circular cross section heat exchange elements (2,3) within a casing formed by the body (1) having a shape that provides between itself and the body surface an annular flow gap (15) for flow of heat transfer fluid between the periphery of the plurality of elements and the body surface in heat transfer contact with the body surface; the

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plurality of elements having a plurality of first plenums (22,17,18) and a plurality of second plenums (19,26); the plurality of first plenums (17,18,22) being in communication with a common first passage (16); and the second plurality of plenums (19,26) being connected with a common second passage means (27). As regarding claim 1, the first plenum and the second plenum can also be interpreted as the first and second plenums (17,26) in which the first and second plenums are at opposite end of the flow gap (15). As regarding claims 9 and 10, the flow gaps (15) have a longitudinal dimension that substantially corresponds to the longitudinal dimensions of respective heat exchanger elements (2,3).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as obvious over Schimion. Schimion substantially discloses all of applicant's claimed invention as discussed above except for the limitation that the flow gap is comprises of a flow path is about 3 cm or less or about 0.5 cm. Schimion discloses (figure 2) that the width of the flow gap (15) is relatively small in compare with the length of the body. Schimion does not explicitly disclose a specific range or value for the dimension of the flow gap (15). Applicant does not disclose any criticality of any unexpected result for obtaining the claimed range or value. Moreover, it appears that the apparatus is performing equally well with the flow gap (15) as shown by the prior art since

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applicant does not disclose any unexpected result or any criticality for the claimed range or value. It does not appear that the flow gap of 3 cm or less or about 0.5 cm will yield any unexpected result from the performance of the apparatus. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the dimension of the flow path (15) to be 3 cm or less or about 0.5 cm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum value of a result effective variable or workable ranges or involves only routine skill in the art. In re Aller, 105 USPQ 233 and In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

H. K. Hitchcok (US 1,900,556) discloses a roll for molten glass having an outer jacket and an inner jacket with flow passages between.

Yamashita et al. (US 6,675,876) discloses a rotary cooling roller.

Hanlon (US 5,873,575) discloses a fluid cooled packing case member for compressor.

T. Vannerus (US 2,596,622) discloses a recuperative heat exchanger of the counter flow type.

Kitano et al. (US 5,895,598) discloses a roller apparatus with magnetic induction heating arrangement.

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Holl (US 5,335,992) discloses a heat exchanger that has small flow portions.

WO 03/022415A discloses a heat exchanger that has small heat exchanger portions.

Marschke et al. (US 6,032,725) discloses a rotary steam joint and valve assembly.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

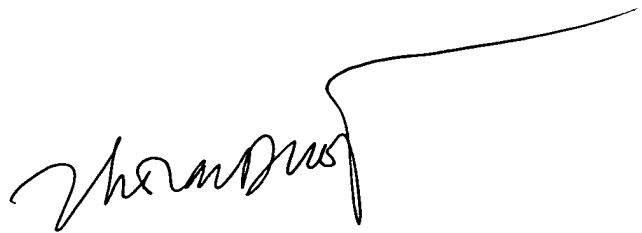
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



TD

September 6, 2004



Tho Duong

Patent Examiner.